



Newsleak

South Carolina DHEC's Drinking Water Newsletter

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SC DHEC • Bureau of Water

Sanitary Survey - Item 2

Groundwater Systems: Protection From Contamination

by Fred Taylor, Drinking Water Compliance

The last issue of "Newsleak" had information about water quantity requirements for groundwater systems. In this issue, we continue our focus on groundwater systems with a review of Item 2 on the DHEC Sanitary Survey Inspection Form. This item concerns proper well location and construction requirements.

Location

The State Primary Drinking Water Regulation requires that drinking water wells be properly located to prevent contamination of the water source. A 100-foot pollution-free radius must be maintained around the well. An easement or deed restriction is to be recorded so that this area is maintained.

Construction

The well must be properly constructed and sealed to prevent contamination from surface water runoff, local soil contamination, or small animals and insects. This is done by maintaining a

concrete pad, well casing, sanitary seal, and proper venting at the wellhead. The casing is to be sealed and centered in a reinforced concrete pad.

Concrete Pad

The concrete pad must have a minimum strength of 2,000 pounds per square inch, a minimum radius of 3 feet, and a minimum thickness of 4 inches.

The concrete pad must be constructed with a slope so that water will drain away from the casing. The top of the casing must extend at least 12 inches above the concrete pad. The concrete pad must be free of full-depth cracking which would allow the flow of surface water through the pad and into the soil surrounding the well casing.

Vent

Except for packer jet wells, a vent is required. The vent is to be elbowed downward and be properly screened with 24 mesh screen. A manufactured slotted pipe with an opening of .024 inches or smaller can also be utilized for venting. The bottom of the vent is to extend eighteen inches above the concrete pad.

Location Rating

Satisfactory

Based on location, all wells which maintain a 100-foot pollution-free radius are rated "Satisfactory."

Needs Improvement

If there is a potential contamination source located in close proximity to the well which could be readily removed, a rating of "Needs Improvement" is given.

Upcoming Events

Free Training for Systems Serving 3,300 or Fewer Persons

Basic Water Treatment
Basic Water Distribution
January 23-25, 2006
Charleston, South Carolina
For more information, call
S.C. Environmental Training
Center at 803-778-6656.

Economic Development & Wastewater Management

January 19, 2006
Columbia, South Carolina
For more information, call
Southeast RCAP at
803-731-0584.

Inside this Issue

| | |
|---|---|
| Notifying DHEC About Changes in Construction Permitting Plans | 2 |
| South Carolina Celebrates World Water Monitoring Day | 2 |
| DHEC Strategies for Assisting Public Water Systems | 3 |
| Consumer Confidence Reports | 4 |
| System Types Defined | 5 |
| Enforcement Report | 5 |



South Carolina Department of Health
and Environmental Control

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Continued on page 4

Changing Directions

Notifying DHEC About Changes in Approved Construction Plans and Specifications



by Coy Watts, Drinking Water Permitting

We all know that real world situations often require a plan to be changed. The permitting and compliance officers within DHEC understand that changes do happen and often are a normal part of the construction process. However, please remember to notify DHEC of any changes from the permitted construction plans and specifications. This will help us maintain accurate records, insure that construction changes comply with state regulations, and allow for smoother final inspections of the project.

Failure to notify DHEC can cause delays during final inspection and can possibly cause the project to fail inspection. This in itself can cause both delays and cost overruns. In order to avoid these situations, DHEC is asking that the permitting engineer be notified in writing when the permitted construction project changes. Initially just a short written narrative should

be sent to the permitting engineer. In most cases this will be sufficient, and DHEC staff will notify you in writing that the change is approved. In some cases, it may be required that follow-up plans be provided or "as-built" plans be submitted prior to final inspection. DHEC suggests that the notification be done while the project is in process and not put off until the final stages. This should insure there are no delays in approval of the change(s).

The intent of requesting notification about changes from approved plans and specifications is to allow DHEC to maintain accurate records and avoid delays in approving a constructed project at time of final inspection. It is not intended to cause hardship on the contractor, owner or engineer. If there are any questions regarding this issue, please contact Coy Watts at 803-898-4257, or e-mail wattsem@dhec.sc.gov.

South Carolina Participates In World Water Monitoring Day



by Meredith Barkley, Watersheds and Planning

October 18 was World Water Monitoring Day (WWMD). This is an annual international celebration where volunteer monitoring groups, students, and the general public are asked to test four key indicators of water quality: temperature, pH, dissolved oxygen, and turbidity. Numerous monitoring sites were registered in South Carolina. Site locations included Columbia, Ninety Six, Lake City, Darlington, Olanta, Salem, Williston, Rock Hill, Summerville, Laurens, Aiken, Clemson, Bishopville, Pawleys Island, and Port Royal.

In recognition of WWMD, DHEC sponsored a water monitoring event at Saluda Shoals Park. Girl Scouts from

the Congaree Girl Scout Council were invited to attend. The girls spent the morning sampling, learning about watersheds and macroinvertebrates, and even heard about having a career in a water-related field. They were also able to complete their "Get With the Land" patch and work on their "Water Drop" patch. Their data, along with data from all the WWMD sites in South Carolina, will be added to an international database where it can be compared with others from all over the world.

For more information on World Water Monitoring Day 2005, visit <http://www.worldwatermonitoringday.org>.

Report to the Governor

Reviewing Strategies for Assisting Public Water Systems

by Mark Noble, SRF Program

The 1996 amendments to the Federal Safe Drinking Water Act (SDWA) required each state to develop a capacity development strategy. The purpose of the strategy is to assist public water systems in achieving technical, managerial and financial capacity to comply with the SDWA. South Carolina was the first state in the nation to receive Environmental Protection Agency (EPA) approval for its strategy.

The 2005 Report to the Governor on the Effectiveness of South Carolina's Capacity Development Strategy is available on the DHEC Web site. Preparing and making this report available to the public is a requirement of DHEC's State Revolving Fund (SRF) Capitalization Grant.

Reporting requirements include outlining the effectiveness of our strategy since its inception and explaining any changes or additions to the strategy.

DHEC actually began developing its strategy in 1993 when the term viability was used in place of capacity development. But the roots of our strategy have been in place over 30 years through such initiatives as sanitary surveys, water quality monitoring, and construction permitting. Items newer to the strategy are operating permits; business plan requirements; efforts to encourage and facilitate the consolidation/regionalization of public water systems; improved coordination between local and state governments' planning activities, and several new educational initiatives.

Operating Permit Program

This program includes a systematic engineering evaluation of each water system's source and storage capacities. The program's goal is to issue 150 to 200 operating permits annually until each public water system has an active operating permit. System specific special conditions are included in each operating permit. One notable requirement concerns having a business plan completed if the system ever

receives a sanitary survey rating of "unsatisfactory." A business plan details how an unsatisfactory system will gain compliance and remain in compliance with the SDWA in the future.

Another universal special condition

stops a water system from being sold to another owner without DHEC approval. This keeps an unsatisfactory system from being sold to another owner lacking the technical, managerial and financial capacities to operate the system properly.

Coordination of Local Planning

Many small publicly and privately owned water systems cannot remain financially viable due to escalating operation costs. The most common cost is for construction to replace aging infrastructure. Operation costs savings can be realized if several small systems consolidate or regionalize for economic reasons. DHEC encourages the coordination of local planning initiatives for several reasons. It can help identify systems that would benefit

from consolidation and local planning authorities have been asked to provide DHEC with current service area maps to prevent encroachment into their service areas by other systems.

Education Initiatives

New initiatives have been instituted by DHEC. The area wide optimization program has been expanded to include reducing disinfection byproducts at surface water filtration plants. These more stringent treatment goals have improved water quality for approximately 71 percent of the state's population receiving its water from surface water sources. The South Carolina Environmental Training Center provides operator certification training programs at no cost to small community and non-transient non-community water systems. This program helps those systems to comply with certified operator regulations.

The Future

Facilitating local planning to encourage the consolidation and regionalization of water systems will have more prominence in our Capacity Development Strategy during the next three years.

Many small publicly and privately owned water systems cannot remain financially viable due to escalating operation costs.

To review DHEC's full strategy, view it online at <http://www.scdhec.gov/eqcl/water/html/capacitydev.html>.

Consumer Confidence Reports

Training

The South Carolina Rural Water Association will be hosting several training classes on preparing the calendar year 2005 Consumer Confidence Report (CCR). The classes will be held in March and April 2006. Dates and times will be announced. DHEC staff will attend to provide additional technical assistance. Please check the South Carolina Rural Water Association Web site (<http://www.scrwa.org>) periodically for more information.

Excellence Awards

The following systems were nominated for the calendar year 2004 Public Water System Consumer Confidence Excellence Awards.

| | |
|----------------------|--------------------------|
| Large Surface Water | Spartanburg Water System |
| Large Ground Water | Breezy Hill Water System |
| Medium Surface Water | Kiawah Island Utilities |
| Medium Ground Water | City of Bamberg |
| Small Surface Water | Town of Whitmire |
| Small Ground Water | Palm Key |

Change in Reporting of Total Organic Carbon

Water systems operating a surface water treatment plant are required to change the way Total Organic Carbon (TOC) results are reported in the 2005 CCR. In the past, the running annual average removal ratio and the treated water TOC range were reported. Now, the average percent removal, the required percent removal, and the range of percent removal will be reported. For example, the December 2005 Monthly Operation Report summarizes the TOC removal for each month. If a minimum 35 percent removal of TOC was required and an average 40 percent removal was achieved, the water system lists this information in the table. Next, the range of monthly percent removal is provided in the table. The percentages in this example illustrate the water system's compliance with the regulation. This reporting method will be simpler for the water systems and easier for the consumers to understand.

**Questions regarding CCRs can be directed to
DHEC staff member Frank Dukes at
(803) 898-3988, or e-mail dukeswf@dhec.sc.gov**

Sanitary Survey Item #2 Continued from page 1

Unsatisfactory

If a well is highly susceptible to a potential contamination source which cannot be removed from the proximity of the well, a rating of "Unsatisfactory" is given.

Construction Rating

Satisfactory

If steps have been taken to prevent source water contamination through proper construction of the well and proper maintenance of protective measures, a rating of "Satisfactory" is given.

Needs Improvement

If proper sanitary protection measures (i.e., concrete pad, well casing, sanitary seal, and venting) are in place, but are poorly maintained, then a rating of "Needs Improvement" is given.

Unsatisfactory

If the site is subject to flooding above the top of the casing, or if the concrete pad is severely cracked, or the vent is not screened, or there are openings through the sanitary seal, a rating of "Unsatisfactory" is given.

Overall Rating

The overall rating for protection from contamination on the DHEC Sanitary Survey will reflect the lowest rating given for the two categories listed above (i.e., location and construction). A rating of "Unsatisfactory" will also be given if no action has been taken to correct a rating of "Needs Improvement" given in a previous survey.

By the Numbers

A Look at Water System Types in South Carolina

Community Water System

(Type C) – 652 Systems in Operation

A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. This may include, but is not limited to, subdivisions, municipalities, mobile home parks, and apartments.

Transient Noncommunity Water System

(Type N) - 622 Systems in Operation

A public water system which serves at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year, and does not meet the definition of a community water system.

Nontransient Noncommunity Water System

(Type P) - 164 Systems in Operation

A public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year.

State Water System

(Type S) - 1,289 Systems in Operation

Any water system that serves less than 15 service connections or regularly serves an average of less than 25 individuals daily.



SRF Funds Available

The State Revolving Fund (SRF) provides low-interest, long-term loans to communities for construction of drinking water and wastewater treatment and transmission facilities.



For more information, call (803) 898-4038, or visit <http://www.scdhec.gov/water/html/srf.html>.

Enforcement Division Report

During July 1 - September 30, 2005, the Enforcement Division issued five Consent Agreements, 52 Consent Orders, and seven Administrative Orders. The Water Enforcement Division assessed approximately \$459,090 during the third quarter of 2005.

More information about enforcement activities within DHEC may be found at <http://www.scdhec.gov/eqc/admin/html/eqcmain.html#Enforcement>.

Enforcement Actions

July 1–September 30, 2005

| | *(CA) | (CO) | (AO) | (EO) |
|-------------------------------|-------|------|------|------|
| Agricultural Facilities | | 01 | | |
| Capacity Use | | | | |
| Dams and Reservoirs | | | | |
| Drinking Water | | 18 | 02 | |
| Groundwater | 04 | | | |
| NPDES | 01 | 02 | 01 | |
| Pollution Control Act | | 16 | 02 | |
| Recreational Waters | | 02 | | |
| Residential Wells | | | | |
| Stormwater & Sediment Control | | 13 | 02 | |

*Consent Agreement/Consent Order/Administrative Order/Emergency Order

Bureau of Water Telephone Numbers

Main Telephone Number
(803) 898-4300

Main Fax Number
(803) 898-4215

Local Environmental Quality Control Offices

Aiken Office.....(803) 641-7670
Aiken, Orangeburg, Barnwell, Bamberg, Allendale, Calhoun

Anderson Office.....(864) 260-5569
Anderson, Oconee

Beaufort Office(843) 846-1030
Beaufort, Jasper, Colleton, Hampton

Charleston Office.....(843) 740-1590
Charleston, Berkeley, Dorchester

Columbia Office(803) 896-0620
Richland, Lexington, Newberry, Fairfield

Florence Office.....(843) 661-4825
Florence, Dillon, Marion, Marlboro, Darlington, Chesterfield

Greenville Office(864) 241-1090
Greenville, Pickens

Greenwood Office(864) 223-0333
Greenwood, Abbeville, Laurens, Saluda, Edgefield, McCormick

Lancaster Office(803) 285-7461
Lancaster, Chester, York

Myrtle Beach Office(843) 238-4378
Horry, Georgetown, Williamsburg

Spartanburg Office.....(864) 596-3800
Spartanburg, Cherokee, Union

Sumter Office.....(803) 778-6548
Sumter, Kershaw, Lee, Clarendon

For Information Call . . .

Lead and Copper
Patrick Metts (803) 898-3794

Bacteriological Monitoring Program
Amanda Kraft (803) 898-4156

THM and SWTR compliance
Leslie Owens (803) 898-4149

Radiological compliance
Idris Liban (803) 898-3573

IOC, VOC, and SOC compliance
Idris Liban (803) 898-3573

State Safe Drinking Water Act Fees
Susan Alder (803) 898-3554

Backflow Prevention and Cross Connection Control
John Watkins (803) 898-3567

Permitting of sources and treatment
Shawn Clarke (803) 898-3544

Permitting of water distribution lines
Wayne Stokes (803) 898-4159

Status of permit applications
Patty Barnes (803) 898-3550

Disinfectants/Disinfection By-product Rule
Richard Welch (803) 898-3546

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